



State of Utah

Department of  
Environmental Quality

Dianne R. Nielson, Ph.D.  
*Executive Director*

DIVISION OF AIR QUALITY  
Richard W. Sprott  
*Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY HERBERT  
*Lieutenant Governor*

DAQE-AN0571017-05

June 23, 2005

Paula Doughty  
Kennecott Utah Copper Corporation  
P.O. Box 6001  
Magna, Utah 84044-6001

Dear Ms. Doughty:

Re: Approval Order: Modification of Approval Order # DAQE-862-01 for the Kennecott Copperton Concentrator, Salt Lake County, CDS A; NA; MAINT, NSPS, TITLE V  
Project Code: N0571-017

The attached document is the Approval Order (AO) for the above-referenced project.

Future correspondence on this Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Nando Meli. He may be reached at (801) 536-4052.

Sincerely,

Richard W. Sprott, Executive Secretary  
Utah Air Quality Board

RWS:NM:re

cc: Salt Lake Valley Health Department  
Mike Owens, EPA Region VIII

**STATE OF UTAH**

**Department of Environmental Quality**

**Division of Air Quality**

**APPROVAL ORDER: Modification of Approval Order  
DAQE-862-01, for the Kennecott Copperton Concentrator**

**Prepared By: Nando Meli, Engineer**  
**(801) 536-4052**  
**Email: [nmeli@utah.gov](mailto:nmeli@utah.gov)**

**APPROVAL ORDER NUMBER**

**DAQE-AN0571017-05**

**Date: June 13, 2005**

**Kennecott Utah Copper Corporation**

**Source Contact**  
**Paula Doughty**  
**(801) 536-7120**

**Richard W. Sprott**  
**Executive Secretary**  
**Utah Air Quality Board**

### Abstract

*Kennecott Utah Copper Corporation (KUCC) has requested approval to install a pebble crushing process at KUCC's Copperton Concentrator. The KUCC Copperton Concentrator is currently operating under the Approval Order DAQE-862-01, dated November 20, 2001. KUCC intends to add two pebble-crushing units and related material handling equipment. This will allow KUCC to increase the throughput of copper ore through the concentrator and improve process efficiency. KUCC has stopped operation of the Feed Molybdenite Dryers and Molybdenite Rotary Kiln and has requested that they be removed from the AO. The stack testing requirements for this equipment and for the Product Molybdenite Dryers have been removed. KUCC is also requesting replacement of one of its product molybdenite dryers and associated heater with a larger product molybdenite dryer that will use the existing product molybdenite dryer scrubber and one of the existing feed molybdenite dryer heaters to supply hot oil to the new product molybdenite dryer.*

*New Source Performance Standards (NSPS) Subpart LL (Standards of Performance for Metallic Mineral Processing Plants) apply to this source. Title V of the 1990 Clean Air Act applies to this source. Salt Lake County is a non-attainment area of the National Ambient Air Quality Standards (NAAQS) for  $PM_{10}$  and  $SO_2$ , and is a maintenance area for ozone. The KUCC Copperton Concentrator is also included as a regulated  $PM_{10}$  source in the Salt Lake County  $PM_{10}$  State Implementation Plan (SIP). This AO modification will result in a modification to the existing SIP limits. Therefore, this modification will require approval by the Air Quality Board. The emissions will decrease in tons per year (tpy) as follows:  $PM_{10} = 1.19$ ,  $SO_2 = 86.30$ ,  $NO_x = 6.95$ ,  $CO = 5.84$ ,  $VOC = 23.38$ . The changes in emissions will result in the following, in tons per year, potential to emit totals:  $PM_{10} = 7.35$ ,  $SO_2 = 0.10$ ,  $NO_x = 10.75$ ,  $CO = 9.06$ , and  $VOC = 2.32$ .*

The project has been evaluated and found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). A public comment period was held in accordance with UAC R307-401-4 and all comments received were evaluated. This air quality Approval Order (AO) authorizes the project with the following conditions, and failure to comply with any of the conditions may constitute a violation of this order.

### General Conditions:

1. This Approval Order (AO) applies to the following company:

<u>Site Office</u>	<u>Corporate Office Location</u>
Kennecott, Utah Copper Corporation	Kennecott, Utah Copper Corporation
P.O. Box 6001	P.O. Box 6001
Magna, Utah 84044-6001	Magna, Utah 84044-6001
Phone Number: (801) 569-7120	(801) 569-7120
Fax Number: (801) 569-7192	(801) 569-7192

The equipment listed in this AO shall be operated at the following location:

Copperton Concentrator Facility, Copperton, Salt Lake County

Universal Transverse Mercator (UTM) Coordinate System: UTM Datum NAD27  
4,493 kilometers Northing, 407 kilometers Easting, Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307) and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.
3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.
4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401-1.
5. All records referenced in this AO which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Records shall be kept for the following minimum periods:
  - A. Emission inventories Five years from the due date of each emission statement or until the next inventory is due, whichever is longer.
  - B. All other records Five years
6. Kennecott Utah Copper Corporation (KUCC) shall install and operate the two pebble crushers and operate the Copperton Concentrator in accordance with the terms and conditions of this AO, which was written pursuant to Kennecott's Notice of Intent submitted to the Division of Air Quality (DAQ) on February 8, 2005, and additional information submitted on March 11, 2005 and April 7, 2005, and April 25, 2005.
7. Regardless of any inconsistency between conditions of this AO and Section IX, Part H, and Subparts H.2.b.X of Section IX, Part H (Emission Limitations) of the SIP, this AO shall take precedence as provided by R307-305-2.
8. This AO shall replace the AO (DAQE-862-01) dated November 20, 2001.
9. The approved installations shall consist of the following equipment or equivalent\*:
  - A. One Feed Molybdenite Dryer Oil Heater for Product Molybdenite Dryer  
 Rated capacity  $5.7 \times 10^6$  BTU/hr  
 Product Molybdenite Dryer with Venturi Scrubber
  - B. One Product Molybdenite Dryer Oil Heater\*\* for Product Molybdenite Dryer  
 Rated capacity  $2.2 \times 10^6$  BTU/hr\*\*  
 Product Molybdenite Dryer with Venturi Scrubber
  - C. Steam Boiler (10,000 lb/hour)
  - D. Molybdenite Storage Bins (6) and Drum Loading Facility, with Baghouse
  - E. Molybdenite Storage Bins (2) with Baghouse

- F. Molybdenite Bag Loading Facility
- G. Vacuum Cleaning System with Baghouse
- H. Metallurgical Laboratory with Baghouses (2)
- I. Moly Water Treatment Soda Ash Silo Baghouse
- J. Cyanide Leach Circuit
- K. Pebble Crushers (2) with associated enclosed conveyors and enclosed drop points.
- L. Degreasing parts washers
- M. Gasoline fueling stations
- N. Other Associated Equipment

\* Equivalency shall be determined by the Executive Secretary.

\*\* Listed for informational purposes only.

10. KUCC shall notify the Executive Secretary in writing when the installation of the equipment listed in Condition #9.A and #9.K has been completed and is operational, as an initial compliance inspection is required. To insure proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section.

If installation has not been completed within eighteen months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the installation. At that time, the Executive Secretary shall require documentation of the continuous installation of the operation and may revoke the AO in accordance with R307-401-11.

### **Limitations and Tests Procedures**

11. Visible emissions from the following emission points shall not exceed the following values:
  - A. Baghouse Stack on Molybdenite Storage Bins/Drum Loading (Subject to NSPS, Subpart LL) - 7% opacity
  - B. Baghouse on Molybdenite Storage Bins (subject to NSPS, Subpart LL) - 7% opacity
  - C. Pebble Crushers (subject to NSPS, Subpart LL) - 7% opacity for building exterior
  - D. Fugitive emission points (subject to NSPS, Subpart LL) - 10% opacity
  - E. All other points - 10% opacity

Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9.

12. Baghouses shall be operated as follows:
  - A. Whenever the moly water treatment soda ash storage silo is being filled, all displaced air shall pass through the bin vent baghouse.

- B. Whenever the vacuum cleaning system is in use, all exhaust gases from the vacuum cleaning system shall pass through the baghouse.
- C. All exhaust gases from the metallurgical laboratory sample preparation hoods shall pass through an operating baghouse.
- D. Whenever the molybdenite storage bins (6) and/or drum loading is in use, all air drawn from the facilities shall pass through an operating baghouse.
- E. Whenever the molybdenite storage bins (2) are in use, all air drawn from the facilities shall pass through an operating baghouse.

### **Fuels**

- 13. The owner/operator shall use only natural gas as a primary fuel and LPG as a backup fuel.
- 14. Natural gas consumption for the steam boiler shall not exceed  $12.0 \times 10^6$  SCF per 30 days. Records of consumption shall be kept for all periods when the steam boiler is in operation. Records of consumption shall be made available to the Executive Secretary upon request and shall include a period of two years ending with the date of the request. Natural gas consumption for the steam boiler shall be metered.

### **Federal Limitations and Requirements**

- 15. In addition to the requirements of this AO, all provisions of 40 CFR 60, New Source Performance Standards (NSPS) Subparts A and LL, 40 CFR 60.1 to 60.18 and 40 CFR 60.380 to 60.386 (Standards of Performance for Metallic Mineral Processing Plants) apply to this installation.
- 16. For sources that are subject to NSPS visible emission observations that are performed during the initial compliance inspection shall consist of 30 observations of six minutes each in accordance with 40 CFR 60.11(b) and 40 CFR 60, Appendix A, Method 9. It is the responsibility of the owner/operator of the source to supply these observations to the Executive Secretary. A certified observer must be used for these observations. The Pebble Crushers and associated equipment for the crushers are subject to the initial observations.

### **Monitoring – General Practices**

- 17. The following operating parameters shall be continuously monitored:
  - A. Pressure drop through every wet scrubber
  - B. Liquid flow rate through every wet scrubber
  - C. pH in flotation circuit upstream of leach circuit

- All of the wet scrubbers shall comply with 40 CFR 60.384 and 60.385.
18. The pH of the cyanide leach circuit shall be maintained at a value of no less than 9.5.

**Roads and Fugitives**

19. The facility shall abide by all applicable requirements of UAC R307- 205 and R307-309 for PM<sub>10</sub> nonattainment areas for Fugitive Emission and Fugitive Dust sources. The provisions of R307-205 or 309 shall not apply to any sources for which limitations for fugitive dust or fugitive emissions are assigned pursuant to R307-401 or R307-305 nor shall they apply to agricultural or horticultural activities.
20. To control fugitive emissions the following controls shall be applied:
- A. All conveyors shall be partially enclosed
  - B. All conveyor transfer points shall be enclosed
  - C. The pebble crushers shall be enclosed in a building.
21. Water sprays or chemical dust suppression sprays shall be installed at the following points to control fugitive emissions:
- A. All SAG mill feed conveyors
  - B. All crushed pebble feed conveyors

The sprays shall operate whenever dry conditions warrant or as determined necessary by the Executive Secretary.

**Records & Miscellaneous**

22. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this Approval Order including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded.
23. The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring.
24. The owner/operator shall comply with R307-107. General Requirements: Unavoidable Breakdowns.

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the Division of Air Quality. The Utah Administrative Code R307 rules used by DAQ, the Notice of Intent (NOI) guide, and other air quality documents and forms may also be obtained on the Internet at the following web site: <http://www.airquality.utah.gov>.

The annual emission estimations below include point source, fugitive emissions, fugitive dust, grandfathered emissions etc. and do not include road dust, and tail pipe emissions. These emissions are for the purpose of determining the applicability of Prevention of Significant Deterioration, non-attainment area, maintenance area, and Title V source requirements of the R307. They are not to be used for determining compliance.

The Potential To Emit (PTE) emissions for the Kennecott's Copperton Concentrator Complex are currently calculated at the following values:

	<u>Pollutant</u>	<u>Tons/yr</u>
A.	PM <sub>10</sub> .....	7.35
B.	SO <sub>2</sub> .....	0.10
C.	NO <sub>x</sub> .....	10.75
D.	CO .....	9.06
E.	VOC .....	2.32
F.	HCN .....	2.24

Approved By:

Richard W. Sprott, Executive Secretary  
Utah Air Quality Board